

Claims

1. A method for analyzing the effectiveness of a pharmaceutical preparation on a neuronal structure which is described using correlation variables which describe a functional connection between neuronal areas of the neuronal structure, wherein
 - the neuronal structure is exposed to the influence of a pharmaceutical preparation,
 - 10 - signals are measured which describe neuronal activities in the neuronal areas of the neuronal structure exposed to the influence of the pharmaceutical preparation,
 - the signals are evaluated using a statistical method, with changed correlation variables being determined for the neuronal structure exposed to the influence of the pharmaceutical preparation, and
 - 15 - the changed correlation variables describe the effectiveness of the pharmaceutical preparation.
- 20 2. The method as claimed in claim 1, wherein the signals are evaluated using a structural equation modeling (SEM) method whereby the changed correlation variables are determined.
- 25 3. The method as claimed in one of the preceding claims, wherein the signals are determined by measurement.
4. The method as claimed in one of the preceding claims, wherein the signals are BOLD signals.
- 30 5. The method as claimed in one of the preceding claims, wherein the neuronal areas are brain areas of a test participant.

6. The method as claimed in one of the preceding claims, used in the context of an fMRI technology in which BOLD signals are measured for a test participant, which signals are evaluated using the statistical method.

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7. The method as claimed in one of the preceding claims, performed a number of times with different pharmaceutical preparations.

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8. The method as claimed in claim 7, wherein each of the different preparations differs in its material composition and/or at least one of the different preparations is a placebo.

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9. The method as claimed in one of the claims 1 to 6, performed a number of times, wherein in each case the neuronal structure is exposed to the influence of the same pharmaceutical preparation in the multiple iterations of the method and each of the multiple iterations differs in terms of the duration of the exposure to the influence of the pharmaceutical preparation on the neuronal structure.

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10. The method as claimed in one of the preceding claims, wherein the signals are statistically averaged signals.

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11. A computer program which comprises a computer-readable storage medium on which is stored a program which, after it has been loaded into a memory of a computer, enables the computer to perform the following steps for analyzing the effectiveness of a pharmaceutical preparation on a neuronal structure which is described using correlation variables which describe a functional connection between neuronal areas of the neuronal structure,

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- the neuronal structure is exposed to the influence of a pharmaceutical preparation,

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- signals are measured which describe neuronal activities in the neuronal areas of the neuronal structure which is exposed to the influence of the pharmaceutical preparation,
- the signals are evaluated using a statistical method, with
5 changed correlation variables being determined for the neuronal structure exposed to the influence of the pharmaceutical preparation, and
- the changed correlation variables describe the effectiveness of the pharmaceutical preparation.

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12. A computer-readable storage medium on which is stored a program which, after it has been loaded into a memory of a computer, enables the computer to perform the following steps for analyzing the effectiveness of a pharmaceutical
15 preparation on a neuronal structure which is described using correlation variables which describe a functional connection between neuronal areas of the neuronal structure,
- the neuronal structure is exposed to the influence of a pharmaceutical preparation,
 - 20 - signals are measured which describe neuronal activities in the neuronal areas of the neuronal structure which is exposed to the influence of the pharmaceutical preparation,
 - the signals are evaluated using a statistical method, with changed correlation variables being determined for the
25 neuronal structure exposed to the influence of the pharmaceutical preparation, and
 - the changed correlation variables describe the effectiveness of the pharmaceutical preparation.

- 30 13. A computer program comprising program code means for performing all the steps according to claim 1 when the program is executed on a computer.

14. The computer program comprising program code means as claimed in claim 13, which means are stored on a computer-readable data medium.

- 5 15. A computer program product comprising program code means stored on a machine-readable medium for performing all the steps according to claim 1 when the program is executed on a computer.